

BRITISH STANDARD 5837

TREE SURVEYS ARBORICULTURAL IMPLICATION STUDIES

TPO/PLANNING ADVICE/ PROJECT MANAGEMENT

TREE INVENTORIES AND RISK ASSESSMENTS

WOODLAND MANAGEMENT PLANS

TREE PLANTING SCHEMES

TPO RE-SURVEY



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# Bryn Cegin Business Park, Bangor

## Ecology Assessment

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# 1 Introduction

## 1.1 Background

Kingdom Ecology have carried out an Ecological Walkover Survey and Desk Study of an area of land located at the proposed Bryn Cegin Business Park, Llandygai, Bangor, LL57 4LD, (National Grid Reference SH 594 705). The proposed development area measures approximately 2.3ha in area.

The assessment has been carried out to identify any ecological constraints which should be considered during proposed works to redevelop the site and to make recommendations to maximise the biodiversity value of the development proposal.

The development proposals are to construct a series of commercial sheds/warehouse units with associated parking, access roads and landscaping provision.

Initial field surveys were undertaken on 12<sup>th</sup> August 2024. Surveys were undertaken by Richard Roe (BSc, MSc, MCIEEM, CEnv). Richard has extensive experience of undertaking habitat and protected species and habitat surveys as a professional ecological consultant with over twenty years' experience. Richard holds a Level 4 FISC.

## 1.2 Purpose of Report

This report provides the findings of field surveys and a desk study undertaken at the site. The assessment has aimed to identify habitats and species which are either of importance in terms of their conservation value or are afforded statutory legal protection. The presence of such habitats or species would form a material consideration during the planning process and could pose a constraint to the redevelopment of the site.

The field surveys comprised of an ecological walkover survey with a search for habitats that could support any protected or notable species.

Following a description of the survey findings and an evaluation of habitats at the site, the report goes on to make recommendations for further works, mitigation and ecological enhancement measures where relevant.

## 1.3 Protected Species Legislation

### 1.3.1 Environment (Wales) Act 2016

Section 6 of the Environment (Wales) Act 2016 places a legal obligation on public bodies in Wales to 'maintain and enhance biodiversity' whilst carrying out their functions.

Section 7 of that Act requires Welsh Ministers to publish and maintain lists of species and types of habitats in Wales that are regarded as of 'principal importance' for the purpose of maintaining and enhancing that biodiversity.

This section of the Act replaces the biodiversity duty originally outlined in Section 42 of the NERC Act 2006.

The presence at any proposed development site, of any priority habitat or priority species identified on these lists is of importance within the local authority planning process.

### 1.3.2 Birds

All wild birds in England and Wales are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird, or take, damage or destroy the nest (whilst being built or in use) or its eggs.

### 1.3.3 Non-native plant species

The Wildlife and Countryside Act 1981 provides the primary control on the release of non-native species into the wild in Great Britain. It is an offence under section 14(2) of the Act to 'plant or otherwise cause to grow in the wild' any plant listed in Schedule 9, Part II. Schedule 9 of the act includes Japanese Knotweed, Himalayan Balsam, Wall Cotoneaster, and Giant Hogweed.

### 1.3.4 Reptiles

All common reptile species, including grass snake, adder, common lizard and slow worm are partially protected under Sections 9(1) and 9(5) of Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This legislation protects these animals from:

- Intentional killing and injury;
- Selling, offering for sale, possessing or transporting for the purpose of sale or publishing advertisements to buy or sell a protected species.

Where these animals are present on land that is to be affected by development, the implications of the legislation are that providing that killing can be reasonably avoided then an operation is legal.

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Rare reptiles (smooth snake and sand lizard) also receive legal protection under the Conservation of Habitats and Species Regulations 2010.

All reptile species are species of principle importance under the Natural Environment Rural Communities (NERC) Act 2006, and local authorities and other public bodies have a legal duty to take their conservation into account. Because of this they are a material consideration in the planning process.

## 2 Desktop Study

### 2.1 Sources of Information

Ecological information on habitats, species and designated nature conservation sites has been sought from the COFNOD, who are the local biological records centre for the North Wales area. Additional records were sought from the Multi Agency Geographic Information for the Countryside website (Magic) (<http://www.magic.gov.uk>).

#### 2.1.1 Species

COFNOD holds several records of protected species within 1km of the site including the following:

- Hedgehog
- Hare
- Polecat
- Long-eared Bat species
- Red Squirrel
- Badger
- Noctule
- Common Pipistrelle
- Soprano Pipistrelle
- Otter
- Slow-worm
- Daubenton's Bat
- Whiskered/Brandt's Bat
- Natterer's Bat
- Nathusius's Pipistrelle
- Brown Long-eared Bat

COFNOD holds no records of any protected species at the study site itself. The closest records are of hedgehog approximately 330 m to the east of the site and a record of Badger on a railway line located approximately 320 m to the north of the site. Records of butterfly include purple hairstreak and holly blue are located approximately 200m and 265m to the north of the site. Further notable species records are all located over 500 m away from the site.

The only records of reptiles are of slow worm dating from 1974 within woodland approximately 820 m to the north-east of the site.

#### 2.1.2 Designated Sites

Caeau Tyddyn Dicwm SSSI is located approximately 1.8 km south-east of the site. There are no other statutory designated sites within 2km of the study site.

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There are several non-statutory designated sites located within 1km of the study site. These largely comprise of areas of interlinked woodland habitat, including ancient woodland, which form habitat corridors through the surrounding landscape.

The closest area of designated woodland habitat is situated approximately 200 m to the north of the site, with the remaining sites located further afield.

Nearby Local Wildlife Sites are listed below along with their approximate distance from the study site:

- Coed Rhos Uchaf [Candidate] 575m
- Woodlands in Penrhyn Park 2 553m
- Llandegai - Glasinfryn woodlands [Candidate] 191m
- Llandegai Estate 824m
- Parc Siambragwynion [Candidate] 942m
- Llandegai woodlands 520m
- Felin Cochwillan to Talybont 829m
- Tal-y-bont woodlands 545m
- Woodlands in Penrhyn Park 3 [Candidate] 968m

None of these sites would be affected by works proposals.

### **2.1.3 Habitats**

COFNOD holds historic Phase 1 Habitat Survey data for the site. The site was previously recorded as a combination of arable and marshy grassland habitat. The Phase 1 Habitat survey pre-dates works to redevelop the site as a Business Park. These works commenced in the early 2000's.



## 3 Field Survey Methods

### 3.1 Survey Aims and Objectives

The survey aim was to assess the site as to its ecological importance by assessing the value of habitats and their suitability to support any protected or notable species. The purpose of this was to highlight any ecological constraints associated with future development proposals.

Survey comprised of an ecological walkover survey, this included an assessment of habitats at the site in terms of their suitability to support any protected species including badgers, reptiles, bats and breeding birds.

Species that are considered unlikely to be significantly affected by the proposed development, even if known to be present in the general vicinity, were 'scoped out' of the assessment.

Survey also aimed to identify opportunities for ecological enhancement and to inform potential mitigation measures, if required, to ameliorate any negative impacts attributable to the proposed works.

### 3.2 Survey Methods

#### 3.2.1 Ecological Walkover Survey

An Ecological Walkover of the site was undertaken on the 12<sup>th</sup> August 2024.

The aims of the walkover survey were to:

- identify areas or habitats that are of particular ecological interest for nature conservation and which require more detailed investigation;
- provide a broad botanical description of habitats present;
- provide additional information regarding incidental observations of protected species or non-native, invasive species;
- to assess the site as to its ecological importance by assessing the value of habitats and their suitability to support any protected or notable species (including bats and breeding birds).

A map of the study site is shown in Figure 2. Typical habitats recorded at the site are also shown in photographs in the Appendix.

## 4 Survey Results

### 4.1 Site Description

The proposed development site comprises of a broadly triangular area of predominantly, open grassland habitat located at the Bryn Cegin Business Park, Llandygai. The site is located in a rural setting to the east of Bangor. The study area measures approximately 2.3ha in area.

There are various aerial images of the site dating from 2006, 2009, 2015, 2018 and 2023. Historically, the site forms part of the proposed Bryn Cegin Business Park. Works to construct the business Park were started in the early 2000's, with historic aerial imagery showing the site as completely stripped of vegetation in 2006. Some landscaping works appear to have been carried out around 2009, around the perimeter of the site, with the landscaping appearing established by around 2015. Up until 2009, the site interior remains largely bare with limited vegetation. Imagery from 2015 onwards shows the site interior as beginning to develop vegetation, with grassland/short vegetation gradually colonising the site interior from the boundaries.

The site currently comprises of a large open area within the site interior comprising predominantly of tall neutral grassland habitats, with a mosaic of patchy habitats within the eastern half of the site including bare ground, short grassland, tall herbs and short perennial vegetation. The previous landscaping works have provided patches of introduced shrubbery at the north-west corner of the site and a band of mixed native scrub on the southern boundary of the site. There is a large mature oak tree located near the south-east corner of the site.

The site is enclosed by access roads at its north-east, west and south faces. A gappy hedgerow runs along the north east boundary of the site.

There are patches of wall cotoneaster present within the central areas of grassland and within landscape planting at the north-west corner of the site. Wall cotoneaster is listed on Schedule 9, Part II of the Wildlife and Countryside Act in England and Wales 1981. It is an offence to plant or otherwise cause it to grow in the wild. Wall cotoneaster is regularly included within municipal or urban planting schemes.

Beyond the site boundary, wider habitats include further areas of unmanaged, neutral grassland which has developed on similar areas of disused land which were also originally cleared in the late 2000's to allow construction of the aborted Business Park. Therefore, the site forms part of a wider block of semi-natural grassland habitat interspersed with corridors of scrub planting. The study site location is shown on Figure 1 in the Appendix.

Development proposals are to construct a series of commercial sheds/warehouse units with associated parking, access roads and landscaping provision.

Habitats recorded at the study site are shown on Photographs and target noted on Figure 2 in the Appendix. Habitats identified at the site are described below.

## **4.2 Habitats**

### **4.2.1 Habitat Description**

As previously described, habitats at the site comprise principally of an area of open grassland (Target Note 2) plus a small habitat mosaic of open brownfield habitats which have developed within the eastern half of the site (Target Note 1).

The site substrate appears to comprise of shale and quarry waste slate, which have developed thin soils as grassland succession has progressed. The western half of the site and the site fringes support a lush vegetation and is more grass-dominated. Whilst the substrates in this location also includes quarry waste slate, the grassland is more established and appears to have developed marginally thicker soils.

The grassland habitats comprise of abundant red fescue with frequent common bent and occasional sweet vernal grass, Timothy, Yorkshire fog, crested dog's tail, rough meadow grass, and rare false oat-grass, cock's foot, and soft rush. Herbs present include frequent bird's-foot trefoil, white clover, common ragwort, common knapweed, with occasional ribwort plantain, common centaury, ox-eye daisy, greater plantain, lesser hawkbit, cat's ear, selfheal, yellow rattle, black medick, lady's bedstraw, and spear thistle with rare bristly ox-tongue, yarrow, rosebay willowherb, broadleaved dock, goat's beard, and dandelion. There are intermittent patches of bare gravel amongst the open grassland habitats.

Habitats within the eastern half of the site include an area of more open habitat at an earlier successional stage compared to the surrounding neutral grassland habitat.

Habitats in this area form a patchy mosaic, with stands of perforate St John's wort, with patches of short, flowering perennial vegetation including bird's-foot trefoil, mouse-ear hawkweed, black medick, and sparse areas of grassland. There are intermittent patches of bare gravel within this part of the site.

Habitats with the eastern half of the site are considered to represent an 'open mosaic' habitat. This part of the site supports a mosaic of early successional communities including patchy grassland, short perennials, tall herb and bare ground with patches of self-seeded scrub. Such habitats can develop on brownfield sites and can be ecologically valuable, particularly for invertebrates.

However, the extent of open mosaic habitat at the site is relatively small. The area of open mosaic habitat extends to approximately 2200 m<sup>2</sup> and therefore is unlikely to meet the threshold for 'open mosaic priority habitat'. 'Open mosaic habitats on previously developed land' is a priority habitat under the Environment (Wales) Act 2016. The extent of this habitat is shown on Figure 2.

Without intervention, it is likely that the site would continue to succeed to unimproved neutral grassland habitats as recorded at Targets Note 2, and the area of open mosaic habitat will eventually be lost.

There are patches of scattered young scrub located around the grassland habitats comprising of willow and buddleia. There is a dry drainage ditch running parallel to the eastern boundary of the site (Target Note 6). The drainage ditch has been colonised by intermittent patches of young willow scrub.

There is a further area of lush neutral grassland located at Target Note 3 interspersed with willow scrub. Grassland habitats in this location are similar to those within the western half of the site (Target Note 2). A gravel footpath runs along the northern edge of the grassland.

There is a dense band of scrub vegetation present on the southern boundary of the site. This was planted as part of the landscaping completed in the late 2000's. The scrub comprises a mix of species including hawthorn, willow, birch, dog rose, and sycamore, with dense bramble. Some willow scrub is beginning to encroach into the site interior from the band of scrub.

There is a large mature oak tree at the south-east corner of the site (Target Note 5). The oak tree is considered to be a feature of high biodiversity value and would be retained as part of development proposals.

There is a further area of scrub/ornamental shrubbery located at the north-west corner of the site (Target Note 8). This was also planted as part of the landscaping completed in the late 2000's. The scrub habitat includes a band of small-leaved/wall cotoneaster with scattered willow, young oak and dogwood with dense bramble scrub, along with non-native rose (Alpine rose).

Around this patch of ornamental shrubbery, the land slopes down from the level plateau of the site towards the road. There is a band of closely mown amenity grassland running alongside the adjacent roads.

Non-native shrub planting continues along the eastern access road and comprises a band of Wilson's honeysuckle interspersed with further alpine rose, scattered oak scrub, willow scrub, and hazel (Target Note 9). The block of scrub habitat is interspersed with rosebay willowherb and bramble. The block of Wilson's honeysuckle grades into a gappy hedgerow (Target Note 7) which comprises hazel, blackthorn, hawthorn, and dog rose, which extends along the roadside.

Habitats recorded at the site are target noted on Figure 2 in the Appendix. Habitats are also shown on photographs in the Appendix.

## **4.3 Protected Species**

### **4.3.1 Breeding Birds**

The areas of hedgerow, scrub and shrubbery could support nesting birds during the breeding bird season.

The study site offers a variety of habitat types including areas of unimproved grassland, dense scrub/shrubbery and scattered scrub habitat. It is therefore likely that the site would support a variety of common garden, farmland and scrubland bird species.

The site could be used by ground nesting birds (such as oyster catcher, meadow pipit and lapwing) during the breeding season (March-August inclusive). The site offers relatively open habitats suitable for these species. However, the site suffers some occasional disturbance from dog walkers.

### **4.3.2 Bats**

The mature oak tree at Target Note 5 does not support any obvious high value suitable bat roosting features, but there are small areas of lifting bark offering potential roosting features of low suitability. The oak would be retained as part of development proposals, therefore works will not affect any potential bat roosting habitat.

### **4.3.3 Common Reptiles**

The site offers suitable habitat for common reptiles within the grassland habitats, with basking opportunities offered within areas of open ground.

However, the grassland habitats are of relatively recent origin with the habitats having only developed from the 2010's onwards.

The desk study revealed limited records of reptiles in the surrounding landscape, comprising of a single record of slow worm located approximately 800 m from the site and dating from 1974.

There are no records of common reptile within 500 m of the site. Records of common reptile around the Bangor area are generally relatively limited.

Given the above mitigating factors, is considered to be very unlikely that the site would support significant numbers of common reptiles. However, there remains a minor risk that low numbers of common reptile could be present at the site.

#### **4.3.4 Invertebrates**

The site interior supports a range of habitats including areas of flower-rich grassland, bare ground, early successional communities, tall herb habitats and scattered scrub.

This habitat diversity can support rich assemblages of invertebrates. A number of UK Priority species are strongly associated with brownfield sites.

However, the areas of open mosaic habitat are relatively small and the site itself is of relatively recent origin. Therefore, it is unlikely that the site has yet developed a significant invertebrate assemblage. However, the site may have been colonised by some important mobile invertebrate species.

Butterfly and day flying moth species recorded during site survey in August included six-spot burnet moth, meadow brown butterfly and common blue butterfly.

The frequent patches of bird's-foot trefoil identified at the site offer suitable egg laying and food habitat for the dingy skipper butterfly. This species occurs around the coast of north-west Wales and can be found on brownfield sites offering suitable habitats. This species is listed as a priority species under Section 7 of the Environment (Wales) Act 2016.

#### **4.3.5 Other Protected or Notable Species**

No evidence badger was identified at the site.

It is considered unlikely that any other protected species would be present within the proposed development area.

## 4.4 Habitats

### 4.4.1 Summary

The proposed development site is located at the Bryn Cegin Business Park in Llandygai, Bangor, and covers an area of approximately 2.3 hectares. Historically, the site was stripped of vegetation in the early 2000s for the construction of the business park. However, construction works were not carried out and so since the 2010s, the site has remained undisturbed. The site has therefore naturally developed grassland habitats with some remnant areas of open ground and early successional communities within the eastern half of the site.

There are several habitats of value at the site including the areas of unimproved neutral grassland and patchy mosaic habitats within the site interior. There is also a large oak tree at the south-east corner of the site, a native hedgerow on the site's north-east boundary and a band of mixed native scrub which has been planted along the southern boundary of the site. All of these features are considered to be of some biodiversity value.

The eastern half of the site features an 'open mosaic' habitat, consisting of early successional communities including patchy grassland, short perennials, tall herb, and areas of bare ground with self-seeded scrub. These habitats, common on brownfield sites, can be valuable for invertebrates. The area of open mosaic habitat extends to approximately 2200 m<sup>2</sup> and therefore given its small size, is unlikely to meet the threshold for 'open mosaic priority habitat' priority habitat as identified under section 7 of the Environment (Wales) Act 2016. Nevertheless, the area is considered to be a habitat feature of biodiversity value. Without intervention, it is likely that the open mosaic habitats would continue to succeed to unimproved neutral grassland habitats as recorded at Target note 2 and would be ultimately lost.

Landscaping proposals will retain the mature oak tree at the south-east corner of the site, the hedgerow on the north-east boundary and the areas of mixed scrub on the southern boundary. In addition, areas of neutral grassland and open mosaic habitat will be retained where possible. New areas of sparse open mosaic habitat would be created around the fringes of the site and within the site interior using the existing site substrate (see section 4.6).

### 4.4.2 Wall Cotoneaster

Small patches of wall cotoneaster were identified scattered around the site. Wall cotoneaster is listed on Schedule 9, Part II of the Wildlife and Countryside Act in England and Wales 1981. It is an offence to plant or otherwise cause it to grow in the wild. Wall cotoneaster is regularly included within municipal or urban planting schemes.

This plant can cause problems when it escapes into sensitive wild habitats. In habitats of lower value, especially in urbanised areas, it may actually have a net benefit to local ecosystems as its flowers are attractive to bees and birds eat its berries in the winter when other food sources may be scarce.

However, where the berries are eaten by birds this can spread the seed into the wider landscape. Once wall cotoneaster is established, it can dominate areas; outcompeting native flora and creating dense thickets.

When plants spread into the wild, they are particularly problematic on limestone cliffs, pavements and screes, through outcompeting rare native plant species. They can also form an extensive root system which is difficult to remove.

It is recommended that a method statement is produced prior to the start of any site clearance works. This should provide methods by which wall cotoneaster will be identified during pre-construction surveys with stands treated, controlled and any contaminated soils appropriately disposed of.

## **4.5 Protected Species**

### **4.5.1 Birds**

Within the proposed development site, the patches of scrub, hedgerow and shrubbery around the site perimeters offer suitable bird nesting habitat.

The site could be used by ground nesting birds during the breeding season. The site offers relatively open habitats and is also relatively undisturbed.

All wild birds in England and Wales are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird, or take, damage or destroy the nest (whilst being built or in use) or its eggs.

The future development of the site would largely avoid the areas of scrub, shrubbery and the mature oak tree present.

Nevertheless, it is recommended that any works to clear any other tall vegetation or potentially affecting ground nesting birds avoid taking place during the breeding bird season (March-September inclusive).

Where this is not possible, a check for breeding birds should be carried out immediately prior to the start of works by an appropriately qualified ecologist.

If during works any nesting birds are found, works should immediately stop and further advice should be sought from an appropriately qualified ecologist.



#### **4.5.2 Reptiles**

The site offers suitable habitat for common reptiles within open grassland habitats. The site does not offer any extensive areas of suitable overwintering habitat although some suitable locations may be offered within scrub/hedge root systems on the site boundaries, however these would be unaffected by development proposals. Although the site offers suitable habitat for reptiles within grassland habitats, it is considered to be unlikely that any reptiles would be present.

Habitats at the site are of relatively recent origin, having developed following abandonment of the site around 2009.

The desk study revealed limited records of reptiles in the surrounding landscape, comprising of a single record of slow worm located approximately 800 m from the site and dating from 1974.

There are no records of common reptile within 500 m of the site. Records of common reptile around the Bangor area generally relatively limited.

Taking the above into account, it is considered to be very unlikely the site would support significant numbers of common reptiles. However, there remains a minor risk that low numbers of common reptile could be present at the site.

As a precaution, it is recommended that any development of the site is carried out following a Reptile Method Statement. This should include precautionary measures to avoid impacts to reptiles using the grassland habitats.

Prior to site clearance, grassland should be cut back in a sensitive manner immediately prior to site clearance.

Grassland habitats can be cut back over the winter period without constraints relating to reptiles as the grassland would offer only suitable summer foraging habitat.

For clearance works undertaken outside of the winter hibernation period (i.e. works between mid-April - mid-October), it would be appropriate to carry out passive displacement of reptiles first by careful cutting the grass sward. This should be done during suitable weather conditions (avoiding temperatures below 9°C, rain or strong wind).

Passive displacement should be done under ecological supervision with an initial cut of the grass sward to a height of approximately 20cm. Arising would then be removed. A second strim would be completed 1-2 hours later to a height of 5cm. The second strim would be carried out from the eastern boundary towards the western boundary of the site thereby allowing reptiles to move into adjacent grassland habitats beyond this boundary.

### **4.5.3 Notable Invertebrates**

The site supports areas of habitat which can be of importance to invertebrates including areas of flower-rich grassland, bare ground, early successional communities, tall herb habitats, and mixed scrub.

Such habitat diversity can support rich assemblages of invertebrates, with several UK Priority species strongly associated with brownfield sites.

However, the areas of open mosaic habitat are relatively small and the site itself is of relatively recent origin. Therefore, it is unlikely that the site supports a significant invertebrate assemblage.

Nevertheless, landscaping proposals would seek to retain early successional habitats around the proposed development (see section 4.6).

## **4.6 Ecological Enhancements**

It is recommended that opportunities to enhance the ecological value of the development area are taken.

### **4.6.1 Ecology Mitigation Areas**

Landscaping proposals would seek to retain early successional habitats and neutral grassland habitats around the proposed development. This would be achieved through the retention of some of the existing areas of grassland habitat and also through the creation of new areas of sparse, open mosaic habitat by using the existing quarry waste/shale substrate. This will ensure that suitable soils with appropriate low nutrient levels are used with an appropriate seed bank.

The existing substrate would need to be carefully stripped from the site and appropriately stored and maintained for use in the ecology mitigation areas.

Habitats to be maintained as 'open mosaic' habitat would be managed to maintain an open patchy sward, whilst other parts of the site would be managed as flower-rich, hay meadow type habitat. This will be achieved through an appropriate maintenance plan including the creation of new areas of bare ground through rotational management; and through annual cuts of grassland habitat, with arising is cleared from site. Butterfly banks will also be created within the ecological mitigation area using the existing shale substrate. Regular ecological monitoring would also need to be undertaken. The findings of the ecological monitoring would conform management practices undertaken site.

Areas of habitat to be retained would need to be appropriately fenced and protected so that they are not damaged during site construction.

Appropriate areas of habitat creation, habitat protection and habitat management would be identified within an Ecology and Landscaping Habitat Creation and Management Plan, which would be produced for the site.

#### **4.6.2 Plants for Pollinators and Birds**

Where amenity landscaping is required, it is recommended that new tree and hedge planting includes species which can provide nectar sources for insects and berries/fruits for invertebrates and birds.

The following small/medium sized tree species are recommended as they offer suitable foraging opportunities to various native wildlife (including birds and invertebrates): rowan, wild cherry, crab apple, silver birch, holly, and willow.

Where possible, new hedgerows would be species-rich hedgerow, comprising of native species. The additional hedgerow planting should include:

- 60% Hawthorn
- 20 % Blackthorn
- 10% Hazel
- 5% Dog rose
- 5 % Holly

This mix will provide a hedgerow which offers foraging and refuge habitat for various local wildlife. The native hedge planting should be planted in a double staggered row at 6 specimens per metre.

#### **4.6.3 Bat and Bird Boxes**

The proposed development should include provision for roosting bats and breeding birds. This can be achieved through the installation of bat boxes and bird boxes onto the proposed industrial buildings located at the site.

The bird boxes should include swift boxes which can be used by several bird species.

The bat and bird boxes should be located at a minimum height of 5 m and ideally located beneath the shelter of the proposed buildings eaves. Bat boxes should be ideally located to have a south facing orientation, whilst bird boxes should be located to avoid direct sun and potential overheating.

Bat and bird box entrances should be located to avoid illumination by artificial lighting from the surrounding site.

## 5 Appendix

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*Photograph 1- Aerial view of Site*



*Photograph 2- Aerial view of Site (viewed from southeast boundary)*



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*Photograph 3- Aerial view of open mosaic habitat (TN1)*



*Photograph 4- Aerial view of scrub and grassland at southeast boundary (TNs 3 and 4)*



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*Photograph 5- Scrub and ornamental planting at northwest corner (TN9)*



*Photograph 6- Grassland Habitats at TN2*



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*Photograph 7- Open Mosaic Habitats at TN1*

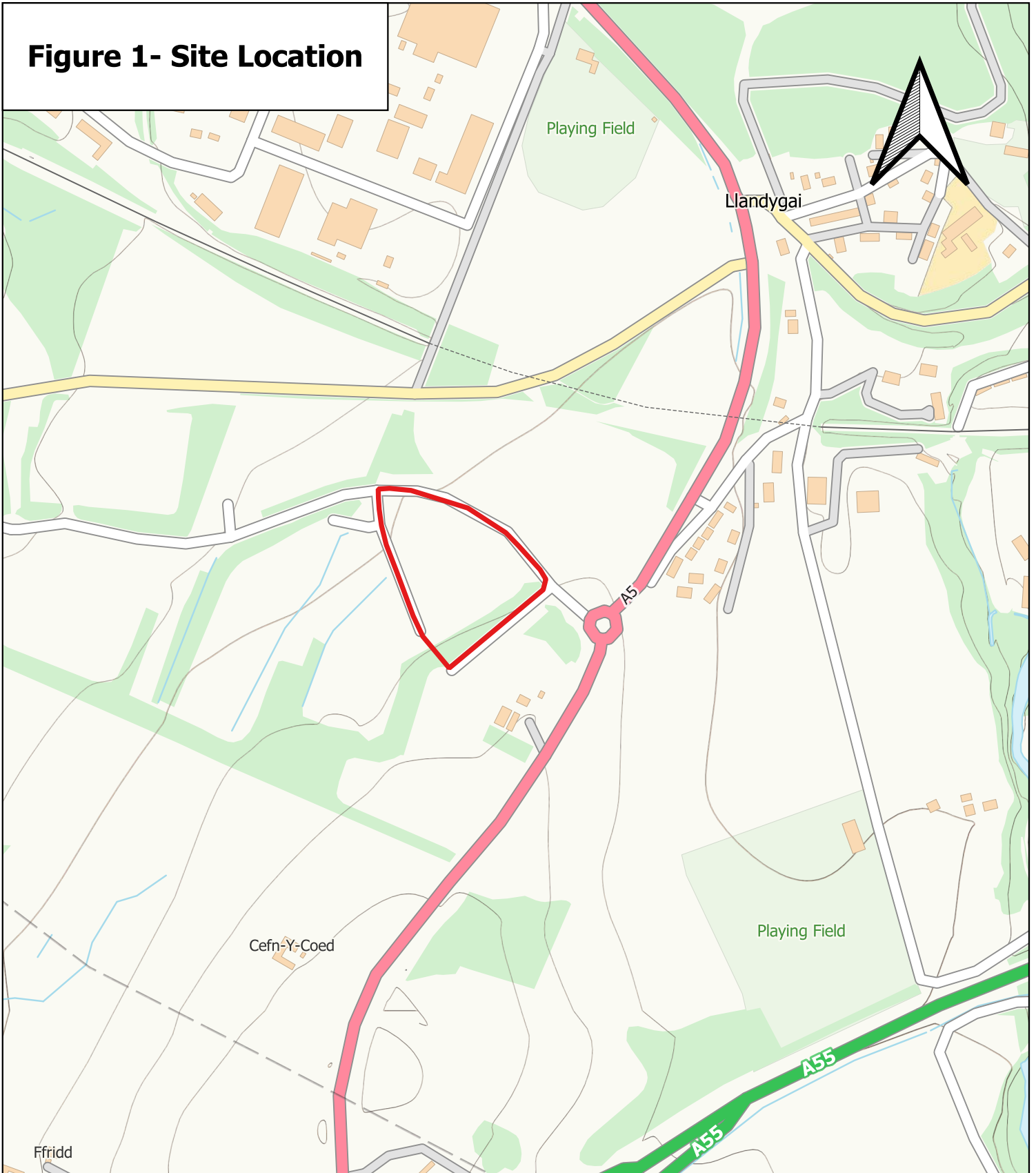


*Photograph 8- Oak tree at TN5*





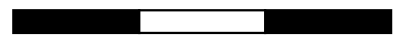
**Figure 1- Site Location**



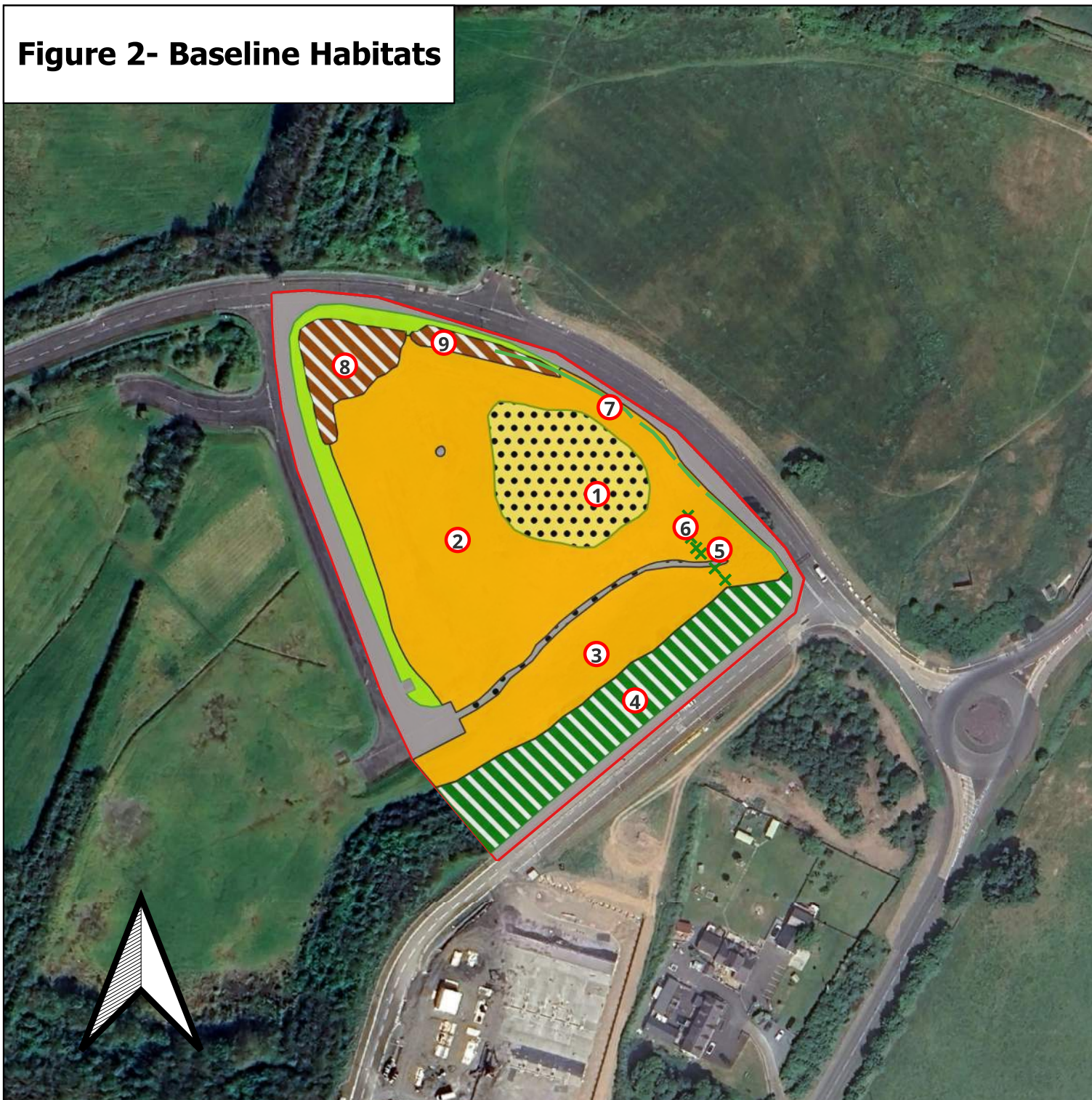
**Key**

 Study Site











0 100 200 300 m



**Figure 2- Baseline Habitats**



**KEY**

-  Study Site
-  Target Note
-  Hedgerow
-  Developed/Sealed Surface
-  Unvegetated, artificial, unsealed
-  Open Mosaic Habitats
-  Modified Grassland
-  Other Neutral Grassland
-  Introduced Shrubbery
-  Mixed Scrub

0 20 40 60 80 100 m

